

Date: February 13, 1999

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Transmitted herewith for filing is the patent application of
Inventor(s): Currier, Diane
For: FRONT-OPENING GARMENT WITH BUILT-IN FRONT-OPENING BRA

Enclosed are:

- (X) Specification, Claims and Abstract: 11 pages
(X) Informal Drawings: 4 sheets
(X) Combined Declaration & Power of Attorney executed by the Inventor(s)
() Information Disclosure Statement
(X) Verified Statement that this is a filing by a Small Entity under
37 CFR 1.9 and 37 CFR 1.27
() Assignment of the Invention to
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Respectfully Submitted,

Keith Frantz
Keith Frantz, Reg. No. 37828

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**STATEMENT CLAIMING SMALL ENTITY STATUS
(37 CFR 1.9(f) & 1.27(b))--INDEPENDENT INVENTOR**

Docket Number (Optional)

Applicant, Patentee, or Identifier: Currier, Diane.

Application or Patent No.: _____

Filed or Issued: _____

Title: FRONT-OPENING GARMENT WITH BUILT-IN FRONT-OPENING BRA

As a below named inventor, I hereby state that I qualify as an independent inventor as defined in 37 CFR 1.9(c) for purposes of paying reduced fees to the Patent and Trademark Office described in:

- ☒ the specification filed herewith with title as listed above.
☐ the application identified above.
☐ the patent identified above.

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Each person, concern, or organization to which I have assigned, granted, conveyed, or licensed or am under an obligation under contract or law to assign, grant, convey, or license any rights in the invention is listed below:

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Separate statements are required from each named person, concern, or organization having rights to the invention stating their status as small entities. (37 CFR 1.27)

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate (37 CFR 1.28(b))

Diane Currier
NAME OF INVENTOR

NAME OF INVENTOR

NAME OF INVENTOR

[Signature]
Signature of inventor

Signature of inventor

Signature of inventor

2/13/99
Date

Date

Date

SPECIFICATION

To whom it may concern:

Be it known that I, Diane Currier, a citizen of the United States, residing at 103 Bradford Pl. SE, Poplar Grove, Illinois 61065, have invented a new and useful FRONT-OPENING GARMENT WITH BUILT-IN FRONT-OPENING BRA, of which the following is a specification.

FRONT-OPENING GARMENT WITH BUILT-IN FRONT-OPENING BRA

Background of the Invention

5 1. Field of Invention

The present invention relates generally to women's apparel, and more specifically, to front-opening upper-body garments with built-in, non-binding breast support which, while suitable for other uses, is especially suitable for
10 use with casual, leisure and nighttime apparel.

2. Description of Prior Art

Many women, and particularly larger breasted women, often prefer to have some breast support when wearing
15 casual, leisure and nighttime apparel. At present, the choices for those desiring such support include wearing either a conventional bra, or a casual "pull-over" top that includes some form of shelf-type bra. Examples of such pull-over tops are shown in Friedman, U.S. Patent 4,564,015,
20 Cordova, U.S. Patent 4,440,174, and Silber, U.S. Patent 4,372,320. While such pull-over tops are suitable for certain women on certain occasions, they are not suitable for all occasions or for all women, and they are not typically worn under other types of casual/leisure apparel.

Therefore, although conventional bras are often not desirable with leisure wear as they tend to be restrictive and binding against the breasts as a result of the supporting/forming hardware, or preformed and/or elastic nature of the breast cups, given the choices presently available, if wearing, for example, a leisure or nighttime robe, or a sweat-suit or similar top as casual wear, women desiring breast support will typically opt for wearing a conventional bra. This is particularly true when wearing front-opening garments, although they would often prefer a less restrictive alternative.

Thus, there is need for new and improved non-binding, less restrictive breast support apparel suitable for use with casual, leisure and nighttime front opening garments.

Summary of the Invention

The general aim of the present invention is to provide new and improved front-opening garments suitable for casual, leisure and nighttime wear, and that include comfortable, generally non-binding and non-restrictive, breast support.

A detailed objective is to achieve the foregoing by providing a front-opening outer garment with a built-in

front-opening bra attached at the shoulders for ease of putting the entire garment on and taking it off, and to permit freedom of movement of the outer garment relative to the bra.

5 Another detailed objective is to achieve the foregoing by providing the built-in bra with breast-supporting body portions adapted to drape over each breast, and with elastic perimeter portions adapted to draw the body portions upwardly into engagement with the lower portion of each
10 breast to effect support from under the breast in a generally non-restrictive and non-binding manner.

 These and other objectives and advantages of the invention will become more apparent from the following detailed description when taken in conjunction with the
15 accompanying drawings.

Brief Description of the Drawings

20 FIGURE 1 is a front view of a new and improved garment comprising a robe and a built in bra, shown as worn by a user, and incorporating the unique aspects of the present invention.

FIG. 2 is an enlarged front view, but showing the robe in dashed lines, and the built-in bra just prior to closure when putting the garment on, or alternately, just after opening for removal of the garment.

5 FIG. 3 is an enlarged front view similar to FIG. 2, but showing built-in bra in the closed position.

FIG. 4 is a view similar to FIG. 3, but showing the robe in position to conceal the built-in bra.

10 FIG. 5 is a front perspective view with the sides of the garment generally rolled back for improved viewing of certain aspects of the invention.

FIG. 6 is an enlarged cross-sectional view taken substantially along the line 6-6 of FIG. 5.

15 FIG. 7 is a front view similar to FIGURE 1, but showing an alternate embodiment garment in accordance with the present invention.

While the invention is susceptible of various modifications and alternative constructions, certain illustrated embodiments have been shown in the drawings and
20 will be described below in detail. It should be understood, however, that there is no intention to limit the invention to the specific forms disclosed, but on the contrary, the intention is to cover all modifications, alternative

constructions, and equivalents falling within the spirit and scope of the invention.

5

Detailed Description of the Invention

For purposes of illustration, the present invention is shown in the drawings in connection with a women's upper-body garment 8 including an outer garment in the form of a
10 lounging robe 10 (FIG.1) such as might be constructed in typical style and design associated with women's apparel. In a conventional manner, the robe 10 is formed with a front opening 12, wraps around the upper body of the wearer or user, and may be closed with a tie-belt around the user's
15 waist. In this instance, the robe includes left and right (from the user's perspective) front sections 14, left and right sides, and a closed back, and extends between an upper neckline 24 to a lower hemline 26. The neckline 24 includes a front neckline section 28 that extends in opposite
20 directions from the front opening 12 generally to the shoulders of the robe, and a back neckline section 32 that extends between the shoulders such that the neckline generally encircles the user's neck.

In accordance with the present invention, the garment 8 includes an integral or built-in bra 40 adapted for front opening, and to provide breast support under each breast, but which is free of supporting/binding/restrictive form or hardware of conventional bras. As a result, the robe 10 provides for a leisure or casual garment that is quick and easy to put on, and which provides the user with some breast support without being restrictive or binding.

In carrying out the invention, the bra 40 includes left and right breast support front panels 42 (FIG. 2) separated by a front opening 44, a back panel 46 (FIG. 5), shoulder straps 48 extending between the upper portions of the front panels and the back panel to wrap over the user's shoulders, and side panels or straps 50 extending between the lower rear portions of the front panels and the back panel to wrap around the user's sides and under her arms. Front closure of the bra is accomplished in any suitable manner, such as with a plastic bra clasp 52 that slides or snaps (not shown) together, the two halves of the clasp 52A, 52B being connected to the forward lower corner portions of the front panels. In this instance, when the bra is closed, the front panels cooperate to define a generally V-shaped opening at the user's chest between her breasts. Preferably, the garment fabric, and in particular, the front panel and bra

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fabric is selected for comfort when worn next to the skin, such a cotton/lycra or other, preferably "stretchy", fabric blend.

In further carrying out the invention, the shoulder
5 straps are attached (i.e., sewn) to the inside shoulders of the robe as generally designated at 54, with the armholes of the bra aligned with the armholes of the robe, and the front opening of the bra aligned with the front opening of the robe. Preferably, the only attachment between the bra and
10 the robe is at the shoulders such that the robe is free to move relative to the bra, and thus, relative to the user's breasts. This permits substantially unrestricted freedom of movement of the outer garment robe as the user sits, stands, lies down, and generally moves around, without resulting in
15 a corresponding pulling of the inner bra or associated pulling on the user's breasts.

In the preferred embodiment, the front panels are formed with a generally triangular shape, having inner and outer side edge portions, 56 and 58, respectively, for
20 positioning to the sides of each breast, and lower edge portions 60 for positioning under the breasts. The body of the front panels are formed from relatively loose fitting material that drapes or freely hangs from the side edge portions of the panels. The lower edge portion of the front

panels, and optionally the inner side edge portions, are formed with elastic perimeter portions. In the embodiment shown, elastic cord 62 is sewn into and concealed in the lower edge portion of the front panels, and optionally in
5 the inner side edge portion, with the associated edge material preferably loosely surrounding the cord to define gathered-material lower front panel edge portions 66, and optional gathered-material inner side edge portions generally between dashed lines 64. With this arrangement,
10 as the front panels are drawn toward one another and over the user's breasts for closure of the bra, the gathered lower edge portions stretch under and generally conform to the underside of each breast. As a result of the draping body construction of the front panels, the breasts generally
15 rest on the lower portion of the front panels adjacent the lower edge portions for non-binding support when the bra is closed.

It will be apparent that a garment in accordance with the present invention may include an outer garment of other
20 forms. By way of non-limiting example, the outer garment may be a robe with a zippered front opening, or a sweat-suit or other casual top having a front opening and closure means. An alternate embodiment of a garment 80 having an outer garment 82 in the form of a top having a zippered

front opening 84 is shown in FIG. 7. In keeping with the invention, the garment 80 includes a built-in bra 40 constructed as previously described, each of the bra shoulder straps being attached to the inside of each of the outer garment shoulders such as generally designated at 86 for the left shoulder in FIG. 7.

From the foregoing, it will be apparent that the present invention brings to the art a new and improved upper body garment with a built-in bra adapted for ease of use and for the user's comfort by providing shelf-type support for the user's breasts. To use, the outer garment and the bra are put on as a single apparel item, the front of the bra is closed, and then the robe is closed to conceal the bra. Thus, a garment according to the invention provides for breast support in a comfortable, easy-to-use arrangement without being binding or restrictive, and that is especially suitable for use with casual, leisure and nighttime wear.

I claim:

1. A women's garment comprising:

a front-opening upper-body outer garment having:

5 left and right front panels,
 left and right shoulders connected to respective
ones of said front panels, and

 a first rear-portion neckline defined between said
shoulders;

10 a front-opening inner bra having:

 left and right breast-supporting front panels,
 left and right shoulder straps connected to
respective ones of said breast-supporting front panels,
and

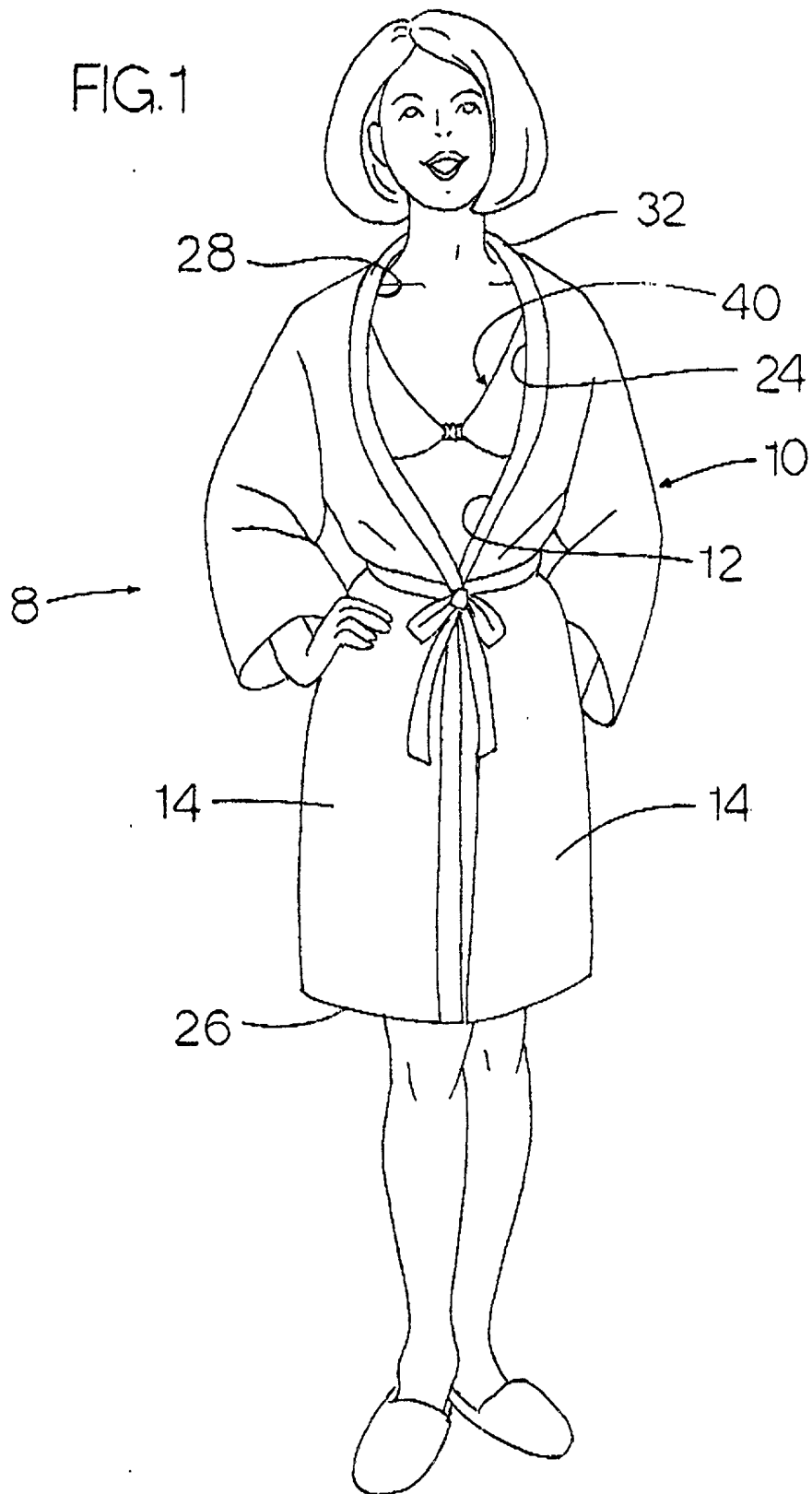
15 a second rear-portion neckline defined between
said shoulder straps;

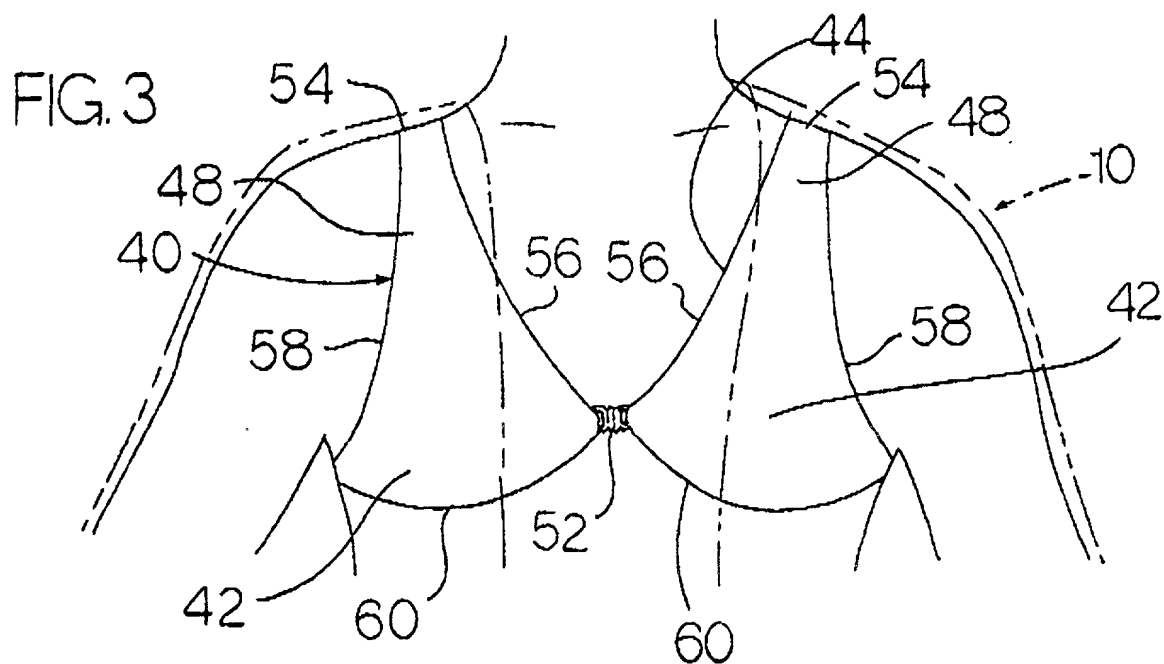
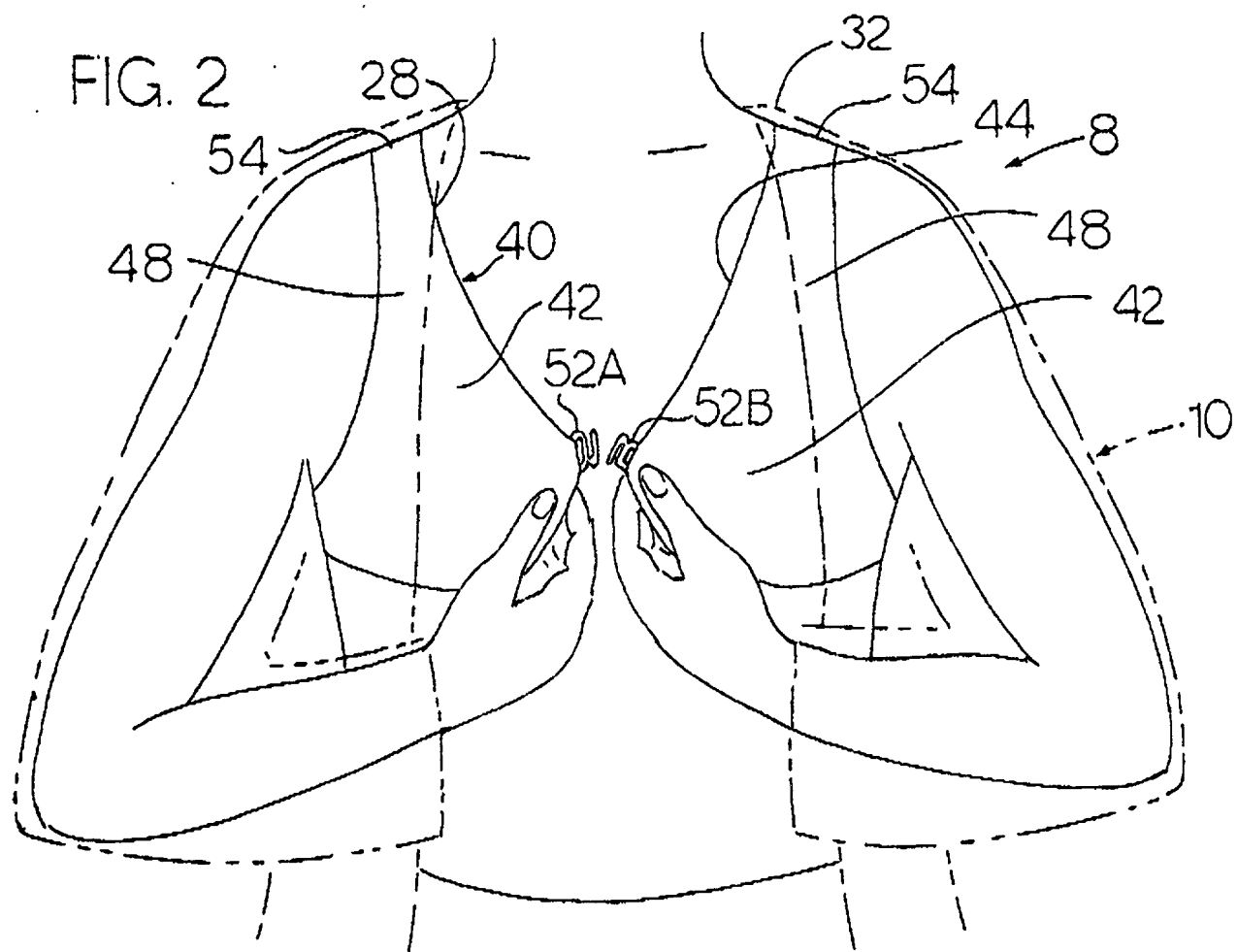
 said shoulder straps being further connected to
respective ones of said left and right shoulders of said
outer garment in a manner to permit freedom of movement
20 between the front panels of said outer garment and the front
panels of said bra.

Variable	Mean	SD	Min	Max
Age	34.5	10.2	21	55
Gender	Male	100%		
Education	High school	100%		
Occupation	Unemployed	100%		
Marital status	Married	100%		
Religion	Islam	100%		
Income	Low	100%		
Health status	Good	100%		
Smoking status	Non-smoker	100%		
Alcohol consumption	None	100%		
Exercise frequency	Low	100%		
Stress level	High	100%		
Sleep quality	Poor	100%		
Dietary habits	Unhealthy	100%		
Family size	Small	100%		
Work hours	Long	100%		
Health insurance	Yes	100%		
Access to healthcare	Good	100%		
Healthcare costs	High	100%		
Healthcare quality	Low	100%		
Healthcare accessibility	Poor	100%		
Healthcare affordability	Low	100%		
Healthcare effectiveness	Low	100%		
Healthcare safety	Low	100%		
Healthcare equity	Low	100%		
Healthcare transparency	Low	100%		
Healthcare accountability	Low	100%		
Healthcare responsiveness	Low	100%		
Healthcare patient satisfaction	Low	100%		
Healthcare provider satisfaction	Low	100%		
Healthcare system efficiency	Low	100%		
Healthcare system effectiveness	Low	100%		
Healthcare system safety	Low	100%		
Healthcare system equity	Low	100%		
Healthcare system transparency	Low	100%		
Healthcare system accountability	Low	100%		
Healthcare system responsiveness	Low	100%		
Healthcare system patient satisfaction	Low	100%		
Healthcare system provider satisfaction	Low	100%		
Healthcare system efficiency	Low	100%		
Healthcare system effectiveness	Low	100%		
Healthcare system safety	Low	100%		
Healthcare system equity	Low	100%		
Healthcare system transparency	Low	100%		
Healthcare system accountability	Low	100%		
Healthcare system responsiveness	Low	100%		
Healthcare system patient satisfaction	Low	100%		
Healthcare system provider satisfaction	Low	100%		
Healthcare system efficiency	Low	100%		
Healthcare system effectiveness	Low	100%		
Healthcare system safety	Low	100%		
Healthcare system equity	Low	100%		
Healthcare system transparency	Low	100%		
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Healthcare system transparency	Low	100%		
Healthcare system accountability	Low	100%		
Healthcare system responsiveness	Low	100%		
Healthcare system patient satisfaction	Low	100%		
Healthcare system provider satisfaction	Low	100%		
Healthcare system efficiency	Low	100%		
Healthcare system effectiveness</				

Variable	Mean	SD	Min	Max
Age	31.2	4.5	22	45
Gender	Male	78%		
Female	22%			
Marital Status	Married	65%		
Single	35%			
Education	High School	15%		
College	45%			
Postgraduate	40%			
Occupation	Manager	30%		
Engineer	25%			
Teacher	20%			
Other	25%			
Income	10,000	5,000	5,000	20,000
Health Status	Good	70%		
Fair	20%			
Poor	10%			
Smoking	Yes	35%		
No	65%			
Drinking	Yes	15%		
No	85%			
Exercise	Regular	40%		
Irregular	60%			
Stress	High	55%		
Low	45%			
Sleep	7 hours	1 hour	6 hours	9 hours
Diet	Healthy	60%		
Unhealthy	40%			
Family Size	3	1	2	5
Religion	Hindu	75%		
Muslim	15%			
Christian	5%			
Other	5%			
Work Hours	40 hours	5 hours	35 hours	45 hours
Job Satisfaction	High	45%		
Low	55%			
Life Satisfaction	High	50%		
Low	50%			

FIG.1





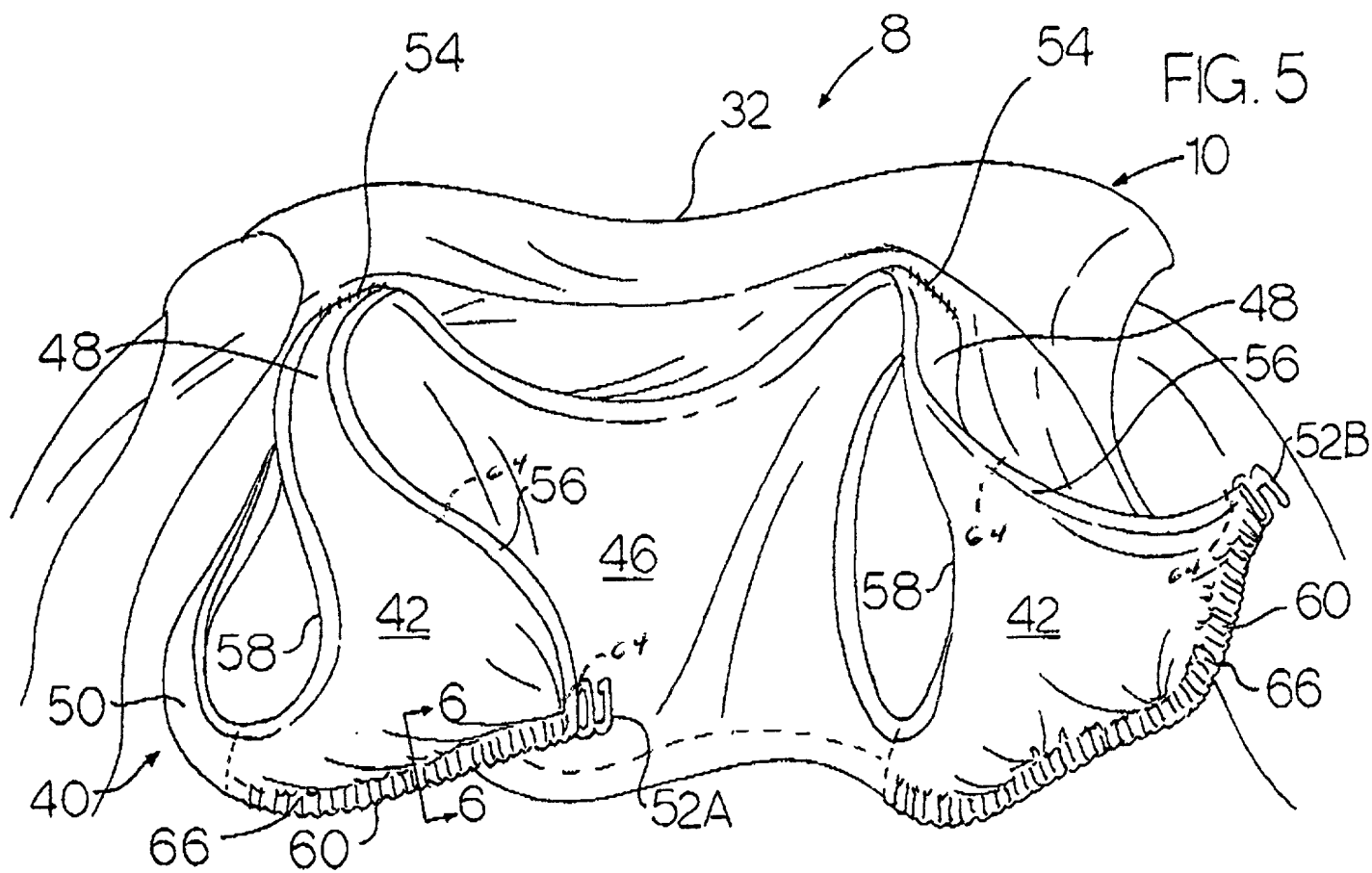
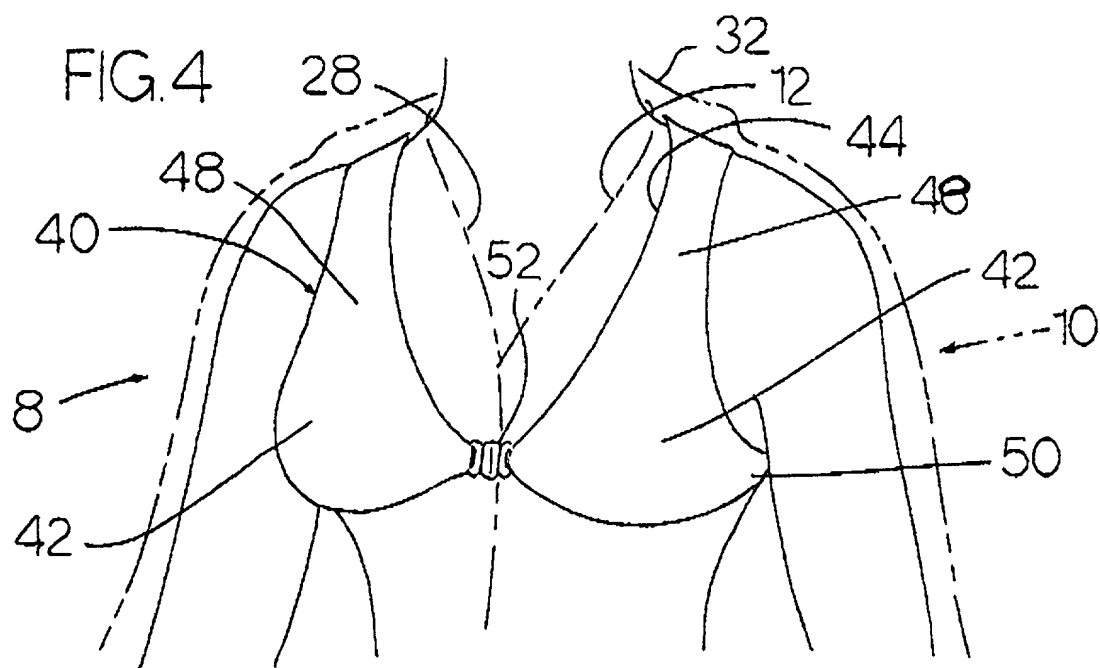


FIG.6

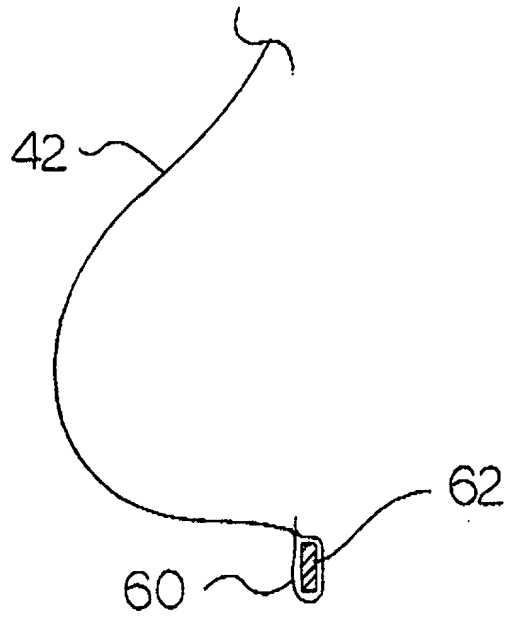
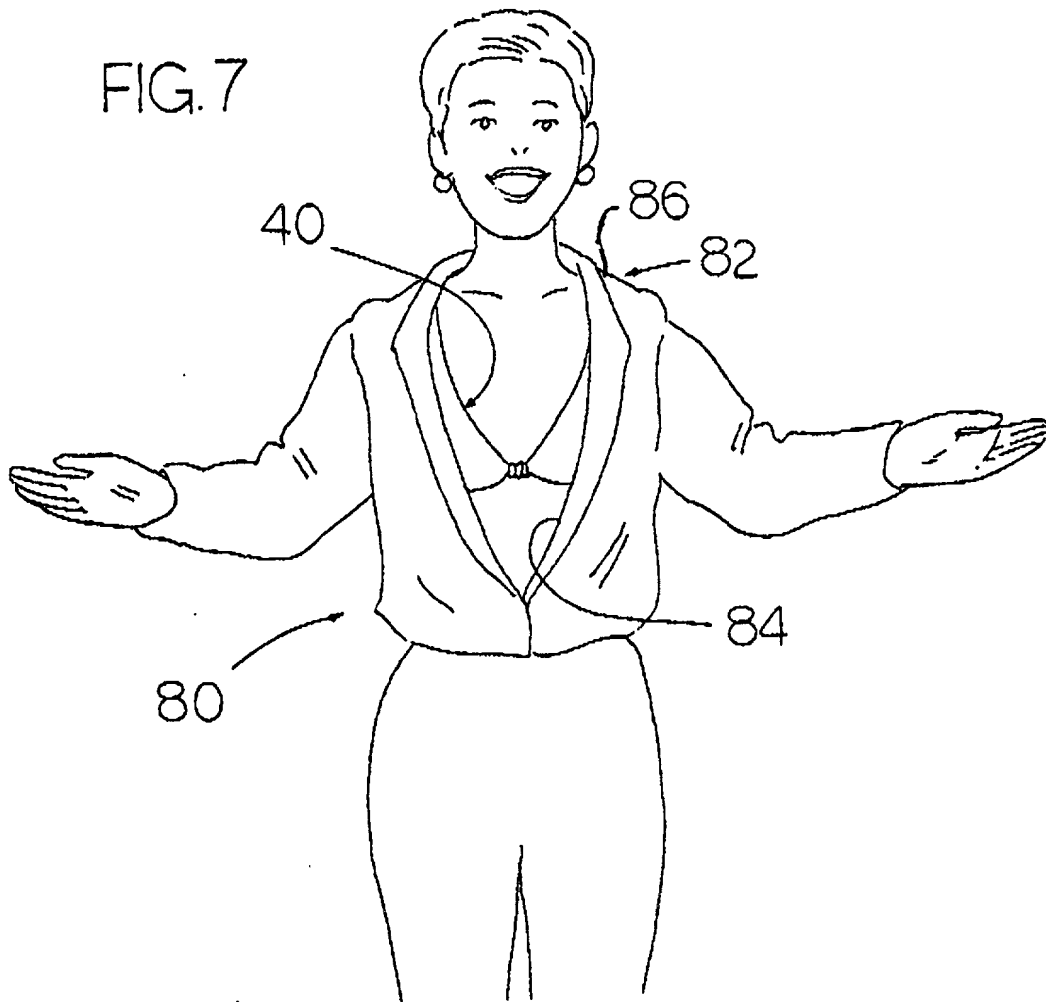


FIG.7



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	First Named Inventor	Currier, Diane
	COMPLETE IF KNOWN	
	Application Number	/
	Filing Date	
	Group Art Unit	
	Examiner Name	

As a below named inventor, I hereby declare that:

My residence, post office address, and citizenship are as stated below next to my name

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

FRONT-OPENING GARMENT WITH BUILT-IN FRONT-OPENING BRA

the specification of which (Title of the Invention)

☒ is attached hereto

OR

☐ was filed on (MM/DD/YYYY) as United States Application Number or PCT International

Application Number and was amended on (MM/DD/YYYY) (if applicable)

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56

I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or 365(b) of any foreign application(s) for patent or inventor's certificate, or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or of any PCT international application having a filing date before that of the application on which priority is claimed

Prior Foreign Application Number(s)	Country	Foreign Filing Date (MM/DD/YYYY)	Priority Not Claimed	Certified Copy Attached?	
				YES	NO
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

☐ Additional foreign application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto

I hereby claim the benefit under 35 U.S.C. 119(e) of any United States provisional application(s) listed below

Application Number(s)	Filing Date (MM/DD/YYYY)	<input type="checkbox"/> Additional provisional application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto.

[Page 1 of 2]

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DECLARATION — Utility or Design Patent Application

I hereby claim the benefit under 35 U.S.C. 120 of any United States application(s), or 365(c) of any PCT international application designating the United States of America, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT international application in the manner provided by the first paragraph of 35 U.S.C. 112, I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application.

U.S. Parent Application or PCT Parent Number	Parent Filing Date (MM/DD/YYYY)	Parent Patent Number (if applicable)

☐ Additional U.S. or PCT international application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto

As a named inventor, I hereby appoint the following registered practitioner(s) to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith:

☒ Customer Number 20606

OR

☐ Registered practitioner(s) name/registration number listed below

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City	State	ZIP	
Country	Telephone (815) 987-9820	Fax	

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Name of Sole or First Inventor:		<input type="checkbox"/> A petition has been filed for this unsigned inventor	
Given Name (first and middle (if any))		Family Name or Surname	
Diane		Currier	
Inventor's Signature	Date		2-13-00
Residence: City	Poplar Grove	State	IL
		Country	U.S.A.
Citizenship	US		
Post Office Address	103 Bradford Place SE		
Post Office Address			
City	Poplar Grove	State	IL
		ZIP	61065
		Country	U.S.A.

☐ Additional inventors are being named on the 1 supplemental Additional Inventor(s) sheet(s) PTO/SB/02A attached hereto